

**CLAIMS AS AMENDED**

1. (Amended) A method for programming wireless subscriber terminals in a wireless system, the wireless system having a base station in wireless communication with the wireless subscriber terminals using one or more control channels and multiple traffic channels, and each wireless subscriber terminal having a memory, a non-volatile memory, a processor, and a pre-existing control program running on the processor to control operation of the wireless subscriber terminal, the method comprising the steps of:

- A. transmitting from the base station over a control channel to wireless sub-scriber terminals information about a new control program [initializing one or more participating wireless subscriber terminals from the base station, using a control channel, to receive a complete program over a selected control channel];
- B. transmitting a response from each individual wireless subscriber terminal over a control channel to the base station indicating whether that terminal will be a recipient of the new control program [transmitting a complete program from the base station using the selected control channel, the complete program comprising a plurality of program segments communicated to the wireless subscriber terminals in separate messages];
- C. broadcasting the new control program in blocks of data from the base station to the recipient terminals over a control channel [verifying that each participating wireless subscriber terminal has received the complete program];
- D. polling all of the recipient terminals by the base station over a control channel to determine the transfer status of the new control program at each recipient terminal; [storing the complete program in the non-volatile memory of each participating wireless subscriber terminal as a new control program; and]
- E. transmitting a status message from each recipient terminal to the base station over a point-to-point control channel indicating the status of the reception of the new control program; [transferring control of each participating wireless subscriber terminal to the new control program.]

- F. re-transmitting select missing data blocks to each recipient terminal in response to the individual status messages sent from each recipient terminal that indicate an incomplete transmission and the specific data blocks needed; and
- G. transferring control of each recipient terminal to said new control program.

2. (Cancelled)

3. (Amended) The method of claim 1 [2], wherein the step of re-transmitting occurs [unreceived program segments are retransmitted] over one or more point-to-point control channels.

4. (Amended) The method of claim 1 [2], wherein the step of re-transmitting occurs [unreceived program segments are retransmitted] over one or more broadcast control channels.

5. (Cancelled)

6. (Amended) The method of claim 1, wherein the step of transferring control [verifying further comprises the step of] involves performing a series of diagnostic tests at each [participating] recipient wireless subscriber terminal to determine the validity of the new control program received at that wireless subscriber terminal.

7. (Amended) The method of claim 1, further comprising the step of storing each program segment received by the recipient wireless subscriber terminal in the non-volatile memory of the wireless subscriber terminal, whereby the wireless subscriber terminal retains all received program segments if reception of program segments by the wireless subscriber terminal is interrupted.

8. (Original) The method of claim 1 further comprising the step of storing the original control program in non-volatile memory after transferring control of the processor to the new control program.

9. (Amended) The method of claim 1 wherein the pre-existing control program and the new control program each comprise a software patch for controlling less than all of the operations of the wireless subscriber terminal.

10. (Original) The method of claim 1 wherein the wireless subscriber terminal is a cellular phone.

11. (Original) The method of claim 1 wherein the wireless subscriber terminal is a terminal of a wireless local loop.

12. (Original) The method of claim 1 wherein the step of transferring control to the new control program is forced by the base station during the step of initializing each wireless subscriber terminal.

13. A system for programming wireless subscriber terminals, the system comprising:  
a base station, the base station having a memory;  
a control program stored in the memory of the base station;  
one or more wireless subscriber terminals in wireless communication with the base station over an air interface, the air interface comprising a plurality of traffic channels and a plurality of control channels;  
means for transmitting from the base station to wireless subscriber terminals information about a new control program [initializing the one or more wireless subscriber terminals, using the control channels, to receive the control program];  
means for transmitting a response from each individual wireless subscriber terminal over a control channel to the base station indicating whether that terminal will be a recipient of the new control program [broadcasting the control program to the one or more wireless subscriber terminals];

means for broadcasting the new control program in blocks of data from the base station to the recipient terminals; [verifying that each initialized wireless subscriber terminal has received the control program; and]

means for polling all of the recipient terminals over a control channel to determine the transfer status of the new control program at each recipient terminal; [transferring control of each initialized wireless subscriber terminal to the control program.]

means for transmitting a status message from each recipient terminal to the base station over a control channel indicating the status of the reception of the new control program; means for re-transmitting select missing data blocks to each recipient terminal in response to the individual status messages sent from each recipient terminal indicating an incomplete transmission and the specific data blocks needed; and

means for transferring control of each recipient terminal to said new control program.

14. (Original) The system of claim 13, wherein the one or more wireless subscriber terminals comprise cellular phone handsets.

15. (Original) The system of claim 13, wherein the one or more wireless subscriber terminals comprise wireless local loop terminals.

16. (Amended) A base station for programming one or more wireless subscriber terminals in a wireless system, the base station comprising:

a memory;

a control program stored in the memory as one or more program segments;

a transmitter for transmitting forward messages to wireless subscriber terminals over an air interface, the forward messages including the one or more program segments stored in the memory that can be selectively transmitted without regard to sequence;

a receiver for receiving reverse messages from wireless subscriber terminals over the air interface; and

a processor connected to the memory, the transmitter, and the receiver for controlling operation of the base station.

17. (Original) The base station of claim 16, the forward messages including broadcast firmware start messages and the reverse messages including broadcast firmware start response messages.

18. (Original) The base station of claim 16, the forward messages including broadcast firmware status request messages and the reverse messages including broadcast firmware status messages.

19. (Original) The base station of claim 16, the forward messages including firmware switch-over messages.

20. (Amended) A method for operating a base station to program one or more wireless subscriber terminals in a wireless system, the method comprising the steps of:

- A. transmitting from the base station to wireless subscriber terminals information about a new control program;
- B. receiving a response from each individual wireless subscriber terminal over a control channel to the base station indicating whether that terminal will be a recipient of the new control program;
- C. broadcasting the new control program in blocks of data from the base station to the recipient terminals;
- D. polling all of the recipient terminals over a control channel to determine the transfer status of the new control program at each recipient terminal;
- E. receiving a status message from each recipient terminal to the base station over a control channel indicating the status of the reception of the new control program;
- F. re-transmitting select missing data blocks to each recipient terminal in response to the individual status messages sent from each recipient terminal that indicates an incomplete transmission and the specific data blocks needed; and
- G. transferring control of each said recipient terminal to said new control program.

- [A. initializing a plurality of wireless subscriber terminals, using a control channel, to receive a control program;
- B. broadcasting the control program to the plurality of wireless subscriber terminals;
- C. verifying that each one of the plurality of wireless subscriber terminals has received the control program; and
- D. transferring control of each one of the plurality of wireless subscriber terminals to the control program.]

21. (Cancelled)

22. (Original) The method of claim 20, the step of broadcasting further comprising the step of transmitting one or more broadcast firmware block messages over a broadcast channel.

23. (Cancelled)

24. (Amended) A wireless subscriber terminal for use in a wireless system, the terminal comprising:

a memory;

a transmitter for transmitting reverse messages from the terminal over an air interface including information relating to missing data blocks from a program transfer [,];

a receiver for receiving forward messages from a base station, the forward messages including the one or more program segments irrespective of their sequence; and

a processor connected to the memory, the transmitter, and the receiver for controlling the terminal, and for storing the one or more program segments in the memory.

25. (Original) The terminal of claim 24 wherein the forward messages include broadcast firmware start messages and the reverse messages include broadcast firmware start response messages.

26. (Original) The terminal of claim 24 wherein the forward messages include broadcast firmware status request messages and the reverse messages include broadcast firmware status messages.

27. (Original) The terminal of claim 24 wherein the forward messages include firmware switch-over messages.

28. (Original) The terminal of claim 24 wherein the forward messages including the one or more program segments are broadcast messages.

29. (Amended) A method for operating a wireless subscriber terminal in a wireless system to receive a control program, the method comprising the steps of:

- A. receiving from the base station information about a new control program;
  - B. transmitting a response from each individual wireless subscriber terminal over a control channel to the base station indicating whether that terminal will be a recipient of the new control program;
  - C. receiving the new control program in blocks of data through a broadcast from the base station at the recipient terminals;
  - D. receiving a status request at all of the recipient terminals over a control channel to determine the transfer status of the new control program at each recipient terminal;
  - E. transmitting a status message from each recipient terminal to the base station over a control channel that indicates the status of the reception of the new control program and specific data blocks missing;
  - F. re-receiving select missing data blocks at each recipient terminal from the base station in response to the individual status messages sent from each recipient terminal; and
  - G. transferring control of each recipient terminal to said new control program.
- [A. initializing a terminal, using a control channel, to receive a control program, the control program comprising a plurality of control program segments;

- B. receiving a broadcast comprising the plurality of control program segments;
- C. verifying that the terminal has received all of the control program segments;  
and
- D. transferring control of the terminal to the control program.]

30. (Cancelled)

31. (Amended) The method of claim 29, the step of receiving the new control program [a broadcasting] further comprising the step of receiving a plurality of firmware block messages over a broadcast channel.

32. (Cancelled)

33. (Original) The method of claim 29, the step of transferring control further comprising the step of receiving a firmware switch-over message.